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Gly Ser Gly Pro Pro Leu Arg Thr Ala Gln Tyr Asn Ser Lys Trp Leu 210 215 220

Asn Glu Pro Asn Phe Val Ala Ala Tyr Asp Ile Gly Leu Phe Ala Tyr 225 230 235 240

Phe Phe Leu Arg Glu Asn Ala Val Glu His Asp Cys Gly Arg Thr Val

Tyr Ser Arg Val Ala Arg Val Cys Lys Asn Asp Val Gly Arg Phe 260 265 270

Leu Leu Glu Asp Thr Trp Thr Thr Phe Met Lys Ala Arg Leu Asn Cys 275 280 285

Ser Arg Pro Gly Glu Val Pro Phe Tyr Tyr Asn Glu Leu Gln Ser Ala 290 295 300

Phe His Leu Pro Glu Gln Asp Leu Ile Tyr Gly Val Phe Thr Thr Asn 305 310 315 320

Val Asn Ser Ile Ala Ala Ser Ala Val Cys Ala Phe Asn Leu Ser Ala 325 330 335

Ile Ser Gln Ala Phe Asn Gly Pro Phe Arg Tyr Gln Glu Asn Pro Arg 340 345 350

Ala Ala Trp Leu Pro Ile Ala Asn Pro Ile Pro Asn Phe Gln Cys Gly 355 360 365

Thr Leu Pro Glu Thr Gly Pro Asn Glu Asn Leu Thr Glu Arg Ser Leu Gln Asp Ala Gln Arg Leu Phe Leu Met Ser Glu Ala Val Gln Pro Val Thr Pro Glu Pro Cys Val Thr Gln Asp Ser Val Arg Phe Ser His Leu Val Val Asp Leu Val Gln Ala Lys Asp Thr Leu Tyr His Val Leu Tyr Ile Gly Thr Glu Ser Gly Thr Ile Leu Lys Ala Leu Ser Thr Ala Ser Arg Ser Leu His Gly Cys Tyr Leu Glu Glu Leu His Val Leu Pro Pro Gly Arg Arg Glu Pro Leu Arg Ser Leu Arg Ile Leu His Ser Ala Arg Ala Leu Phe Val Gly Leu Arg Asp Gly Val Leu Arg Val Pro Leu Glu Arg Cys Ala Ala Tyr Arg Ser Gln Gly Ala Cys Leu Gly Ala Arg Asp Pro Tyr Cys Gly Trp Asp Gly Lys Gln Gln Arg Cys Ser Thr Leu Glu Asp Ser Ser Asn Met Ser Leu Trp Thr Gln Asn Ile Thr Ala Cys Pro Val Arg Asn Val Thr Arg Asp Gly Gly Phe Gly Pro Trp Ser Pro Trp Gln Pro Cys Glu His Leu Asp Gly Asp Asn Ser Gly Ser Cys Leu Cys Arq Ala Arg Ser Cys Asp Ser Pro Arg Pro Arg Cys Gly Gly Leu Asp Cys Leu Gly Pro Ala Ile His Ile Ala Asn Cys Ser Arg Asn Gly Gly Arg Gly Pro Arg Gly Ala Ser Trp Ala Ala Val Gln Ala Arg Pro Val Ala Ser Gly Phe Gln Val Arg Gln Arg Ser Cys Ser Asn Pro Ala Pro Arg His Gly Gly Arg Ile Cys Val Gly Lys Ser Arg Glu Glu Arg Phe Cys Asn Glu Asn Thr Pro Cys Pro Val Pro Ile Phe Trp Ala Ser Trp 665 Gly Ser Trp Ser Lys Cys Ser Ser Asn Cys Gly Gly Met Gln Ser

Arg Arg Arg Ala Cys Glu Asn Gly Asn Ser Cys Leu Gly Cys Gly Val 690 695 700

- Glu Phe Lys Thr Cys Asn Pro Glu Gly Cys Pro Glu Val Arg Arg Asn 705 710 715 720
- Thr Pro Trp Thr Pro Trp Leu Pro Val Asn Val Thr Gln Gly Gly Ala
 725 730 735
- Arg Gln Glu Gln Arg Phe Arg Phe Thr Cys Arg Ala Pro Leu Ala Asp 740 745 750
- Pro His Gly Leu Gln Phe Gly Arg Arg Thr Glu Thr Arg Thr Cys
 755 760 765
- Pro Ala Asp Gly Ser Gly Ser Cys Asp Thr Asp Ala Leu Val Glu Val 770 780
- Leu Leu Arg Ser Gly Ser Thr Ser Pro His Thr Val Ser Gly Gly Trp
 785 790 795 800
- Ala Ala Trp Gly Pro Trp Ser Ser Cys Ser Arg Asp Cys Glu Leu Gly 805 810 815
- Phe Arg Val Arg Lys Arg Thr Cys Thr Asn Pro Glu Pro Arg Asn Gly 820 825 830
- Gly Leu Pro Cys Val Gly Asp Ala Ala Glu Tyr Gln Asp Cys Asn Pro 835 840 845
- Gln Ala Cys Pro Val Arg Gly Ala Trp Ser Cys Trp Thr Ser Trp Ser 850 855 860
- Pro Cys Ser Ala Ser Cys Gly Gly Gly His Tyr Gln Arg Thr Arg Ser 865 870 875 880
- Cys Thr Ser Pro Ala Pro Ser Pro Gly Glu Asp Ile Cys Leu Gly Leu 885 890 895
- His Thr Glu Glu Ala Leu Cys Ala Thr Gln Ala Cys Pro Glu Gly Trp 900 905 910
- Ser Pro Trp Ser Glu Trp Ser Lys Cys Thr Asp Asp Gly Ala Gln Ser 915 920 925
- Arg Ser Arg His Cys Glu Glu Leu Leu Pro Gly Ser Ser Ala Cys Ala 930 935 940
- Gly Asn Ser Ser Gln Ser Arg Pro Cys Pro Tyr Ser Glu Ile Arg Val 945 950 955 960
- Ile Leu Pro Ala Ser Ser Met Glu Glu Ala Thr Asp Cys Ala Gly Phe 965 970 975
- Asn Leu Ile His Leu Val Ala Thr Gly Ile Ser Cys Phe Leu Gly Ser 980 985 990
- Gly Leu Leu Thr Leu Ala Val Tyr Leu Ser Cys Gln His Cys Gln Arg 995 1000 1005

12

Gln Ser Gln Glu Ser Thr Leu Val His Pro Ala Thr Pro Asn His

WO 03/1014001010 1015 1020

PCT/US03/17559

Leu His Tyr Lys Gly Gly Gly Thr Pro Lys Asn Glu Lys Tyr Thr 1025 1030 1035

Pro Met Glu Phe Lys Thr Leu Asn Lys Asn Asn Leu Ile Pro Asp 1040 1045 1050

Asp Arg Ala Asn Phe Tyr Pro Leu Gln Gln Thr Asn Val Tyr Thr 1055 1060 1065

Thr Thr Tyr Tyr Pro Ser Pro Leu Asn Lys His Ser Phe Arg Pro 1070 1075 1080

Glu Ala Ser Pro Gly Gln Arg Cys Phe Pro Asn Ser 1085 1090 1095

<210> 9

<211> 1248

<212> PRT

<213> Homo sapiens

<400> 9

Arg Pro Pro His Ser Gln Thr Gly Arg Gln Pro Ile Trp Leu Ala Pro
1 5 10 15

Ala Ala Pro Arg Arg Pro Gly Val Gly Ser Arg Gly Glu Pro Gly Thr 20 25 30

Cys Thr Arg Leu Trp Glu Pro Ala Trp Val Arg Val Ala Leu Gly Pro 35 40 45

Ala Arg Ala Val Val Gly Ala Ser Gly Leu Gln Arg Arg Trp Gly Pro 50 55 60

Gly Thr Gln Ala Trp Arg Arg Arg Thr Ser Glu Ala Glu Gly Arg 65 70 75 80

Arg Asp Arg Val Ser Gly Ser Ser Trp Cys Leu Ala Cys Val Ser Trp 85 90 95

Met Pro Cys Gly Phe Ser Pro Ser Pro Val Ala His His Leu Val Pro 100 105 110

Gly Pro Pro Asp Thr Pro Ala Gln Gln Leu Arg Cys Gly Trp Thr Val 115 120 125

Gly Gly Trp Leu Leu Ser Leu Val Arg Gly Leu Leu Pro Cys Leu Pro 130 135 140

Pro Gly Ala Arg Thr Ala Glu Gly Pro Ile Met Val Leu Ala Gly Pro 145 150 155 160

Leu Ala Val Ser Leu Leu Leu Pro Ser Leu Thr Leu Leu Val Ser His
165 170 175

Leu Ser Ser Ser Gln Asp Val Ser Ser Glu Pro Ser Ser Glu Gln Gln
180 185 190

Leu Cys Ala Leu Ser Lys His Pro Thr Val Ala Phe Glu Asp Leu Gln

WO 03/101400 195 200 205

PCT/US03/17559

Pro Trp Val Ser Asn Phe Thr Tyr Pro Gly Ala Arg Asp Phe Ser Gln 215 Leu Ala Leu Asp Pro Ser Gly Asn Gln Leu Ile Val Gly Ala Arg Asn Tyr Leu Phe Arg Leu Ser Leu Ala Asn Val Ser Leu Leu Gln Ala Thr Glu Trp Ala Ser Ser Glu Asp Thr Arg Arg Ser Cys Gln Ser Lys Gly Lys Thr Glu Glu Cys Gln Asn Tyr Val Arg Val Leu Ile Val Ala Gly Arg Lys Val Phe Met Cys Gly Thr Asn Ala Phe Ser Pro Met Cys Thr Ser Arg Gln Val Gly Asn Leu Ser Arg Thr Thr Glu Lys Ile Asn Gly Val Ala Arg Cys Pro Tyr Asp Pro Arg His Asn Ser Thr Ala Val 330 Ile Ser Ser Gln Gly Glu Leu Tyr Ala Ala Thr Val Ile Asp Phe Ser Gly Arg Asp Pro Ala Ile Tyr Arg Ser Leu Gly Ser Gly Pro Pro Leu Arg Thr Ala Gln Tyr Asn Ser Lys Trp Leu Asn Glu Pro Asn Phe Val Ala Ala Tyr Asp Ile Gly Leu Phe Ala Tyr Phe Phe Leu Arg Glu Asn 395 Ala Val Glu His Asp Cys Gly Arg Thr Val Tyr Ser Arg Val Ala Arg Val Cys Lys Asn Asp Val Gly Gly Arg Phe Leu Leu Glu Asp Thr Trp 425 Thr Thr Phe Met Lys Ala Arg Leu Asn Cys Ser Arg Pro Gly Glu Val Pro Phe Tyr Tyr Asn Glu Leu Gln Ser Ala Phe His Leu Pro Glu Gln 455 Asp Leu Ile Tyr Gly Val Phe Thr Thr Asn Val Asn Ser Ile Ala Ala 470 475 Ser Ala Val Cys Ala Phe Asn Leu Ser Ala Ile Ser Gln Ala Phe Asn 490 Gly Pro Phe Arg Tyr Gln Glu Asn Pro Arg Ala Ala Trp Leu Pro Ile 505 Ala Asn Pro Ile Pro Asn Phe Gln Cys Gly Thr Leu Pro Glu Thr Gly 520 525

Pro Asn Glu Asn Leu Thr Glu Arg Ser Leu Gln Asp Ala Gln Arg Leu 530 535 Phe Leu Met Ser Glu Ala Val Gln Pro Val Thr Pro Glu Pro Cys Val Thr Gln Asp Ser Val Arg Phe Ser His Leu Val Val Asp Leu Val Gln Ala Lys Asp Thr Leu Tyr His Val Leu Tyr Ile Gly Thr Glu Ser Gly Thr Ile Leu Lys Ala Leu Ser Thr Ala Ser Arg Ser Leu His Gly Cys Tyr Leu Glu Glu Leu His Val Leu Pro Pro Gly Arg Arg Glu Pro Leu Arg Ser Leu Arg Ile Leu His Ser Ala Arg Ala Leu Phe Val Gly Leu Arg Asp Gly Val Leu Arg Val Pro Leu Glu Arg Cys Ala Ala Tyr Arg Ser Gln Gly Ala Cys Leu Gly Ala Arg Asp Pro Tyr Cys Gly Trp Asp 665 Gly Lys Gln Gln Arg Cys Ser Thr Leu Glu Asp Ser Ser Asn Met Ser Leu Trp Thr Gln Asn Ile Thr Ala Cys Pro Val Arg Asn Val Thr Arg Asp Gly Gly Phe Gly Pro Trp Ser Pro Trp Gln Pro Cys Glu His Leu Asp Gly Asp Asn Ser Gly Ser Cys Leu Cys Arg Ala Arg Ser Cys Asp Ser Pro Arg Pro Arg Cys Gly Gly Leu Asp Cys Leu Gly Pro Ala Ile His Ile Ala Asn Cys Ser Arg Asn Gly Ala Val Asp Pro Val Val Ile Val Gly Arg Cys Ala Ala Thr Ser Cys Gly Ile Gly Phe Gln Val Arg Gln Arg Ser Cys Ser Asn Pro Ala Pro Arg His Gly Gly Arg Ile Cys Val Gly Lys Ser Arg Glu Glu Arg Phe Cys Asn Glu Asn Thr Pro Cys 805 Pro Val Pro Ile Phe Trp Ala Ser Trp Gly Ser Trp Ser Lys Cys Ser 825 Ser Asn Cys Gly Gly Met Gln Ser Arg Arg Ala Cys Glu Asn 835 840 845

Gly Asn Ser Cys Leu Gly Cys Gly Val Glu Phe Lys Thr Cys Asn Pro 850 855 860

- Glu Gly Cys Pro Glu Val Arg Arg Asn Thr Pro Trp Thr Pro Trp Leu 865 870 875 880
- Pro Val Asn Val Thr Gln Gly Gly Ala Arg Gln Glu Gln Arg Phe Arg 885 890 895
- Phe Thr Cys Arg Ala Pro Leu Ala Asp Pro His Gly Leu Gln Phe Gly 900 905 910
- Arg Arg Thr Glu Thr Arg Thr Cys Pro Ala Asp Gly Ser Gly Ser 915 920 925
- Cys Asp Thr Asp Ala Leu Val Glu Val Leu Leu Arg Ser Gly Ser Thr 930 935 940
- Ser Pro His Thr Val Ser Gly Gly Trp Ala Ala Trp Gly Pro Trp Ser 945 950 955 960
- Ser Cys Ser Arg Asp Cys Glu Leu Gly Phe Arg Val Arg Lys Arg Thr 965 970 975
- Cys Thr Asn Pro Glu Pro Arg Asn Gly Gly Leu Pro Cys Val Gly Asp 980 985 990
- Ala Ala Glu Tyr Gln Asp Cys Asn Pro Gln Ala Cys Pro Val Arg Gly 995 1000 1005
- Ala Trp Ser Cys Trp Thr Ser Trp Ser Pro Cys Ser Ala Ser Cys 1010 1015 1020
- Gly Gly His Tyr Gln Arg Thr Arg Ser Cys Thr Ser Pro Ala 1025 1030 1035
- Pro Ser Pro Gly Glu Asp Ile Cys Leu Gly Leu His Thr Glu Glu 1040 1045 1050
- Ala Leu Cys Ala Thr Gln Ala Cys Pro Glu Gly Trp Ser Pro Trp 1055 1060 1065
- Ser Glu Trp Ser Lys Cys Thr Asp Asp Gly Ala Gln Ser Arg Ser 1070 1075 1080
- Arg His Cys Glu Glu Leu Leu Pro Gly Ser Ser Ala Cys Ala Gly 1085 1090 1095
- Asn Ser Ser Gln Ser Arg Pro Cys Pro Tyr Ser Glu Ile Arg Val 1100 1105 1110
- Ile Leu Pro Ala Ser Ser Met Glu Glu Ala Thr Asp Cys Ala Gly 1115 1120 1125
- Phe Asn Leu Ile His Leu Val Ala Thr Gly Ile Ser Cys Phe Leu 1130 1135 1140
- Gly Ser Gly Leu Leu Thr Leu Ala Val Tyr Leu Ser Cys Gln His 1145 1150 1155
- Cys Gln Arg Gln Ser Gln Glu Ser Thr Leu Val His Pro Ala Thr

WO 03/101400

1160 1165 1170

Pro Asn His Leu His Tyr Lys Gly Gly Gly Thr Pro Lys Asn Glu 1175 1180 1185

PCT/US03/17559

Lys Tyr Thr Pro Met Glu Phe Lys Thr Leu Asn Lys Asn Asn Leu 1190 1195 1200

Ile Pro Asp Asp Arg Ala Asn Phe Tyr Pro Leu Gln Gln Thr Asn 1205 1210 1215

Val Tyr Thr Thr Tyr Tyr Pro Ser Pro Leu Asn Lys His Ser 1220 1225 1230

Phe Arg Pro Glu Ala Ser Pro Gly Gln Arg Cys Phe Pro Asn Ser 1235 1240 1245

<210> 10

<211> 1150

<212> PRT

<213> Homo sapiens

<400> 10

Ala Ala Ala Pro Phe Pro Asp Arg Pro Pro Ala His Leu Val Ser Ser 1 5 10 15

Arg Arg Ser Ala Pro Pro Gly Ser Arg Glu Pro Arg Gly Thr Gly His 20 25 30

Leu His Pro Pro Leu Gly Gly Leu Leu Pro Cys Leu Pro Pro Gly Ala 35 40 . 45

Arg Thr Ala Glu Gly Pro Ile Met Val Leu Ala Gly Pro Leu Ala Val 50 55 60

Ser Leu Leu Leu Pro Ser Leu Thr Leu Leu Val Ser His Leu Ser Ser 65 70 75 80

Ser Gln Asp Val Ser Ser Glu Pro Ser Ser Glu Gln Gln Leu Cys Ala 85 90 95

Leu Ser Lys His Pro Thr Val Ala Phe Glu Asp Leu Gln Pro Trp Val 100 105 110

Ser Asn Phe Thr Tyr Pro Gly Ala Arg Asp Phe Ser Gln Leu Ala Leu 115 120 125

Asp Pro Ser Gly Asn Gln Leu Ile Val Gly Ala Arg Asn Tyr Leu Phe 130 135 140

Arg Leu Ser Leu Ala Asn Val Ser Leu Leu Gln Ala Thr Glu Trp Ala 145 150 155 160

Ser Ser Glu Asp Thr Arg Arg Ser Cys Gln Ser Lys Gly Lys Thr Glu 165 170 175

Glu Glu Cys Gln Asn Tyr Val Arg Val Leu Ile Val Ala Gly Arg Lys 180 185 190

Val Phe Met Cys Gly Thr Asn Ala Phe Ser Pro Met Cys Thr Ser Arg

- Gln Val Gly Asn Leu Ser Arg Thr Thr Glu Lys Ile Asn Gly Val Ala 210 215 220

 Arg Cys Pro Tyr Asp Pro Arg His Asn Ser Thr Ala Val Ile Ser Ser
- Gln Gly Glu Leu Tyr Ala Ala Thr Val Ile Asp Phe Ser Gly Arg Asp
- Pro Ala Ile Tyr Arg Ser Leu Gly Ser Gly Pro Pro Leu Arg Thr Ala 260 265 270
- Gln Tyr Asn Ser Lys Trp Leu Asn Glu Pro Asn Phe Val Ala Ala Tyr 275 280 285
- Asp Ile Gly Leu Phe Ala Tyr Phe Phe Leu Arg Glu Asn Ala Val Glu 290 295 300
- His Asp Cys Gly Arg Thr Val Tyr Ser Arg Val Ala Arg Val Cys Lys 305 310 315 320
- Asn Asp Val Gly Gly Arg Phe Leu Leu Glu Asp Thr Trp Thr Thr Phe 325 330 335
- Met Lys Ala Arg Leu Asn Cys Ser Arg Pro Gly Glu Val Pro Phe Tyr 340 345 350
- Tyr Asn Glu Leu Gln Ser Ala Phe His Leu Pro Glu Gln Asp Leu Ile 355 360 365
- Tyr Gly Val Phe Thr Thr Asn Val Asn Ser Ile Ala Ala Ser Ala Val 370 380
- Cys Ala Phe Asn Leu Ser Ala Ile Ser Gln Ala Phe Asn Gly Pro Phe 385 390 395 400
- Arg Tyr Gln Glu Asn Pro Arg Ala Ala Trp Leu Pro Ile Ala Asn Pro 405 410 415
- Ile Pro Asn Phe Gln Cys Gly Thr Leu Pro Glu Thr Gly Pro Asn Glu
 420 425 430
- Asn Leu Thr Glu Arg Ser Leu Gln Asp Ala Gln Arg Leu Phe Leu Met 435 440 445
- Ser Glu Ala Val Gln Pro Val Thr Pro Glu Pro Cys Val Thr Gln Asp 450 455 460
- Ser Val Arg Phe Ser His Leu Val Val Asp Leu Val Gln Ala Lys Asp 465 470 475 480
- Thr Leu Tyr His Val Leu Tyr Ile Gly Thr Glu Ser Gly Thr Ile Leu 485 490 495
- Lys Ala Leu Ser Thr Ala Ser Arg Ser Leu His Gly Cys Tyr Leu Glu 500 505 510
- Glu Leu His Val Leu Pro Pro Gly Arg Arg Glu Pro Leu Arg Ser Leu 515 520 525

Arg Ile Leu His Ser Ala Arg Ala Leu Phe Val Gly Leu Arg Asp Gly Val Leu Arg Val Pro Leu Glu Arg Cys Ala Ala Tyr Arg Ser Gln Gly Ala Cys Leu Gly Ala Arg Asp Pro Tyr Cys Gly Trp Asp Gly Lys Gln Gln Arg Cys Ser Thr Leu Glu Asp Ser Ser Asn Met Ser Leu Trp Thr Gln Asn Ile Thr Ala Cys Pro Val Arg Asn Val Thr Arg Asp Gly Gly Phe Gly Pro Trp Ser Pro Trp Gln Pro Cys Glu His Leu Asp Gly Asp Asn Ser Gly Ser Cys Leu Cys Arg Ala Arg Ser Cys Asp Ser Pro Arg Pro Arg Cys Gly Gly Leu Asp Cys Leu Gly Pro Ala Ile His Ile Ala Asn Cys Ser Arg Asn Gly Ala Val Asp Pro Val Val His Arg Gly Pro Leu Cys Ser His Val Leu Trp His Ala Ala Ser Arg Ser Ala Ser Glu Val Ala Ala Thr Leu Leu Pro Ala Thr Gly Ala Ala Ser Ala Trp Ala Arg Ala Trp Glu Glu Arg Phe Cys Asn Glu Asn Thr Pro Cys Pro Val Pro Ile Phe Trp Ala Ser Trp Gly Ser Trp Ser Lys Cys Ser Ser Asn Cys Gly Gly Met Gln Ser Arg Arg Ala Cys Glu Asn Gly Asn Ser Cys Leu Gly Cys Gly Val Glu Phe Lys Thr Cys Asn Pro Glu Gly Cys Pro Glu Val Arg Arg Asn Thr Pro Trp Thr Pro Trp Leu Pro Val Asn Val Thr Gln Gly Gly Ala Arg Gln Glu Gln Arg Phe Arg Phe Thr 795 Cys Arg Ala Pro Leu Ala Asp Pro His Gly Leu Gln Phe Gly Arg Arg 805 Arg Thr Glu Thr Arg Thr Cys Pro Ala Asp Gly Ser Gly Ser Cys Asp 825 Thr Asp Ala Leu Val Glu Val Leu Leu Arg Ser Gly Ser Thr Ser Pro 835 840 845

His Thr Val Ser Gly Gly Trp Ala Ala Trp Gly Pro Trp Ser Ser Cys 850 855 860

- Ser Arg Asp Cys Glu Leu Gly Phe Arg Val Arg Lys Arg Thr Cys Thr 865 870 875 880
- Asn Pro Glu Pro Arg Asn Gly Gly Leu Pro Cys Val Gly Asp Ala Ala 885 890 895
- Glu Tyr Gln Asp Cys Asn Pro Gln Ala Cys Pro Val Arg Gly Ala Trp 900 905 910
- Ser Cys Trp Thr Ser Trp Ser Pro Cys Ser Ala Ser Cys Gly Gly Gly 915 920 925
- His Tyr Gln Arg Thr Arg Ser Cys Thr Ser Pro Ala Pro Ser Pro Gly 930 935 940
- Glu Asp Ile Cys Leu Gly Leu His Thr Glu Glu Ala Leu Cys Ala Thr 945 950 955 960
- Gln Ala Cys Pro Glu Gly Trp Ser Pro Trp Ser Glu Trp Ser Lys Cys 965 970 975
- Thr Asp Asp Gly Ala Gln Ser Arg Ser Arg His Cys Glu Glu Leu Leu 980 985 990
- Pro Gly Ser Ser Ala Cys Ala Gly Asn Ser Ser Gln Ser Arg Pro Cys 995 1000 1005
- Pro Tyr Ser Glu Ile Arg Val Ile Leu Pro Ala Ser Ser Met Glu 1010 1015 1020
- Glu Ala Thr Asp Cys Ala Gly Phe Asn Leu Ile His Leu Val Ala 1025 1030 1035
- Thr Gly Ile Ser Cys Phe Leu Gly Ser Gly Leu Leu Thr Leu Ala 1040 1045 1050
- Val Tyr Leu Ser Cys Gln His Cys Gln Arg Gln Ser Gln Glu Ser 1055 1060 1065
- Thr Leu Val His Pro Ala Thr Pro Asn His Leu His Tyr Lys Gly 1070 1080
- Gly Gly Thr Pro Lys Asn Glu Lys Tyr Thr Pro Met Glu Phe Lys 1085 1090 1095
- Thr Leu Asn Lys Asn Asn Leu Ile Pro Asp Asp Arg Ala Asn Phe 1100 1105 1110
- Tyr Pro Leu Gln Gln Thr Asn Val Tyr Thr Thr Thr Tyr Tyr Pro 1115 1120 1125
- Ser Pro Leu Asn Lys His Ser Phe Arg Pro Glu Ala Ser Pro Gly 1130 1135 1140
- Gln Arg Cys Phe Pro Asn Ser 1145 1150

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- <211> 1211
- <212> PRT
- <213> Homo sapiens

<400> 11

- Ala Ala Pro Phe Pro Asp Arg Pro Pro Ala His Leu Val Ser Ser 1 5 10 15
- Arg Arg Ser Ala Pro Pro Gly Ser Arg Glu Pro Arg Gly Thr Gly His 20 25 30
- Leu His Pro Pro Leu Gly Val Ser Gly Ser Ser Trp Cys Leu Ala Cys 35 40 45
- Val Ser Trp Met Pro Cys Gly Phe Ser Pro Ser Pro Val Ala His His 50 55 60
- Leu Val Pro Gly Pro Pro Asp Thr Pro Ala Gln Gln Leu Arg Cys Gly 70 75 80
- Trp Thr Val Gly Gly Trp Leu Leu Ser Leu Val Arg Gly Leu Leu Pro 85 90 95
- Cys Leu Pro Pro Gly Ala Arg Thr Ala Glu Gly Pro Ile Met Val Leu 100 105 110
- Ala Gly Pro Leu Ala Val Ser Leu Leu Leu Pro Ser Leu Thr Leu Leu 115 120 125
- Val Ser His Leu Ser Ser Ser Gln Asp Val Ser Ser Glu Pro Ser Ser 130 135 140
- Glu Gln Gln Leu Cys Ala Leu Ser Lys His Pro Thr Val Ala Phe Glu 145 150 155 160
- Asp Leu Gln Pro Trp Val Ser Asn Phe Thr Tyr Pro Gly Ala Arg Asp 165 170 175
- Phe Ser Gln Leu Ala Leu Asp Pro Ser Gly Asn Gln Leu Ile Val Gly 180 185 190
- Ala Arg Asn Tyr Leu Phe Arg Leu Ser Leu Ala Asn Val Ser Leu Leu 195 200 205
- Gln Ala Thr Glu Trp Ala Ser Ser Glu Asp Thr Arg Arg Ser Cys Gln 210 215 220
- Ser Lys Gly Lys Thr Glu Glu Glu Cys Gln Asn Tyr Val Arg Val Leu 225 230 235 240
- Ile Val Ala Gly Arg Lys Val Phe Met Cys Gly Thr Asn Ala Phe Ser 245 250 255
- Pro Met Cys Thr Ser Arg Gln Val Gly Asn Leu Ser Arg Thr Thr Glu 260 265 270
- Lys Ile Asn Gly Val Ala Arg Cys Pro Tyr Asp Pro Arg His Asn Ser 275 280 285
- Thr Ala Val Ile Ser Ser Gln Gly Glu Leu Tyr Ala Ala Thr Val Ile

Asp Phe Ser Gly Arg Asp Pro Ala Ile Tyr Arg Ser Leu Gly Ser Gly 315 Pro Pro Leu Arg Thr Ala Gln Tyr Asn Ser Lys Trp Leu Asn Glu Pro Asn Phe Val Ala Ala Tyr Asp Ile Gly Leu Phe Ala Tyr Phe Phe Leu Arg Glu Asn Ala Val Glu His Asp Cys Gly Arg Thr Val Tyr Ser Arg Val Ala Arg Val Cys Lys Asn Asp Val Gly Gly Arg Phe Leu Leu Glu Asp Thr Trp Thr Thr Phe Met Lys Ala Arg Leu Asn Cys Ser Arg Pro Gly Glu Val Pro Phe Tyr Tyr Asn Glu Leu Gln Ser Ala Phe His Leu Pro Glu Gln Asp Leu Ile Tyr Gly Val Phe Thr Thr Asn Val Asn Ser Ile Ala Ala Ser Ala Val Cys Ala Phe Asn Leu Ser Ala Ile Ser Gln Ala Phe Asn Gly Pro Phe Arg Tyr Gln Glu Asn Pro Arg Ala Ala Trp Leu Pro Ile Ala Asn Pro Ile Pro Asn Phe Gln Cys Gly Thr Leu Pro Glu Thr Gly Pro Asn Glu Asn Leu Thr Glu Arg Ser Leu Gln Asp Ala Gln Arg Leu Phe Leu Met Ser Glu Ala Val Gln Pro Val Thr Pro Glu Pro Cys Val Thr Gln Asp Ser Val Arg Phe Ser His Leu Val Val Asp Leu Val Gln Ala Lys Asp Thr Leu Tyr His Val Leu Tyr Ile Gly Thr Glu Ser Gly Thr Ile Leu Lys Ala Leu Ser Thr Ala Ser Arg Ser Leu 550 555 His Gly Cys Tyr Leu Glu Glu Leu His Val Leu Pro Pro Gly Arg Arg 565 Glu Pro Leu Arg Ser Leu Arg Ile Leu His Ser Ala Arg Ala Leu Phe 585 Val Gly Leu Arg Asp Gly Val Leu Arg Val Pro Leu Glu Arg Cys Ala 595 Ala Tyr Arg Ser Gln Gly Ala Cys Leu Gly Ala Arg Asp Pro Tyr Cys 615 620

Gly Trp Asp Gly Lys Gln Gln Arg Cys Ser Thr Leu Glu Asp Ser Ser 625 Asn Met Ser Leu Trp Thr Gln Asn Ile Thr Ala Cys Pro Val Arg Asn Val Thr Arg Asp Gly Gly Phe Gly Pro Trp Ser Pro Trp Gln Pro Cys Glu His Leu Asp Gly Asp Asn Ser Gly Ser Cys Leu Cys Arg Ala Arg Ser Cys Asp Ser Pro Arg Pro Arg Cys Gly Gly Leu Asp Cys Leu Gly Pro Ala Ile His Ile Ala Asn Cys Ser Arg Asn Gly Ala Val Asp Pro Val Val Ile Val Gly Arg Cys Ala Ala Thr Ser Cys Gly Ile Gly Phe Gln Val Arg Gln Arg Ser Cys Ser Asn Pro Ala Pro Arg His Gly Gly Arg Ile Cys Val Gly Lys Ser Arg Glu Glu Arg Phe Cys Asn Glu Asn Thr Pro Cys Pro Val Pro Ile Phe Trp Ala Ser Trp Gly Ser Trp Ser Lys Cys Ser Ser Asn Cys Gly Gly Gly Met Gln Ser Arg Arg Ala Cys Glu Asn Gly Asn Ser Cys Leu Gly Cys Gly Val Glu Phe Lys Thr Cys Asn Pro Glu Gly Cys Pro Glu Val Arg Arg Asn Thr Pro Trp Thr Pro Trp Leu Pro Val Asn Val Thr Gln Gly Gly Ala Arg Gln Glu Gln Arg Phe Arg Phe Thr Cys Arg Ala Pro Leu Ala Asp Pro His Gly Leu Gln Phe Gly Arg Arg Arg Thr Glu Thr Arg Thr Cys Pro Ala Asp Gly 865 875 Ser Gly Ser Cys Asp Thr Asp Ala Leu Val Glu Val Leu Leu Arg Ser 890 Gly Ser Thr Ser Pro His Thr Val Ser Gly Gly Trp Ala Ala Trp Gly 905 Pro Trp Ser Ser Cys Ser Arg Asp Cys Glu Leu Gly Phe Arg Val Arg 920 Lys Arg Thr Cys Thr Asn Pro Glu Pro Arg Asn Gly Gly Leu Pro Cys 930 935 940

Val Gly Asp Ala Ala Glu Tyr Gln Asp Cys Asn Pro Gln Ala Cys Pro 945 950 955 960

- Val Arg Gly Ala Trp Ser Cys Trp Thr Ser Trp Ser Pro Cys Ser Ala 965 970 975
- Ser Cys Gly Gly His Tyr Gln Arg Thr Arg Ser Cys Thr Ser Pro 980 985 990
- Ala Pro Ser Pro Gly Glu Asp Ile Cys Leu Gly Leu His Thr Glu Glu 995 1000 1005
- Ala Leu Cys Ala Thr Gln Ala Cys Pro Glu Gly Trp Ser Pro Trp 1010 1015 1020
- Ser Glu Trp Ser Lys Cys Thr Asp Asp Gly Ala Gln Ser Arg Ser 1025 1030 1035
- Arg His Cys Glu Glu Leu Leu Pro Gly Ser Ser Ala Cys Ala Gly 1040 1045 1050
- Asn Ser Ser Gln Ser Arg Pro Cys Pro Tyr Ser Glu Ile Arg Val 1055 1060 1065
- Ile Leu Pro Ala Ser Ser Met Glu Glu Ala Thr Asp Cys Ala Gly
- Phe Asn Leu Ile His Leu Val Ala Thr Gly Ile Ser Cys Phe Leu 1085 1090 1095
- Gly Ser Gly Leu Leu Thr Leu Ala Val Tyr Leu Ser Cys Gln His 1100 1105 1110
- Cys Gln Arg Gln Ser Gln Glu Ser Thr Leu Val His Pro Ala Thr 1115 1120 1125
- Pro Asn His Leu His Tyr Lys Gly Gly Gly Thr Pro Lys Asn Glu 1130 1135 1140
- Lys Tyr Thr Pro Met Glu Phe Lys Thr Leu Asn Lys Asn Asn Leu 1145 1150 1155
- Ile Pro Asp Asp Arg Ala Asn Phe Tyr Pro Leu Gln Gln Thr Asn 1160 1165 1170
- Ala Ser Ala Gly Tyr Pro Pro Leu Pro Gly Ser Leu Tyr Ser Thr 1175 1180 1185
- Gln Gly Ile Pro Leu Val Arg Gly Ser Glu Tyr Trp Glu Leu Glu 1190 1195 1200
- Ala Asp Leu Cys Leu Glu Val Leu 1205 1210
- <210> 12
- <211> 1203
- <212> PRT
- <213> Homo sapiens
- <400> 12

Ala Ala Pro Phe Pro Asp Arg Pro Pro Ala His Leu Val Ser Ser

1 10 15

- Arg Arg Ser Ala Pro Pro Gly Ser Arg Glu Pro Arg Gly Thr Gly His 20 25 30
- Leu His Pro Pro Leu Gly Val Ser Gly Ser Ser Trp Cys Leu Ala Cys 35 40 45
- Val Ser Trp Met Pro Cys Gly Phe Ser Pro Ser Pro Val Ala His His 50 55 60
- Leu Val Pro Gly Pro Pro Asp Thr Pro Ala Gln Gln Leu Arg Cys Gly 65 70 75 80
- Trp Thr Val Gly Gly Trp Leu Leu Ser Leu Val Arg Gly Leu Leu Pro 85 90 95
- Cys Leu Pro Pro Gly Ala Arg Thr Ala Glu Gly Pro Ile Met Val Leu 100 105 110
- Ala Gly Pro Leu Ala Val Ser Leu Leu Leu Pro Ser Leu Thr Leu Leu 115 120 125
- Val Ser His Leu Ser Ser Ser Gln Asp Val Ser Ser Glu Pro Ser Ser 130 135 140
- Glu Gln Gln Leu Cys Ala Leu Ser Lys His Pro Thr Val Ala Phe Glu 145 150 155 160
- Asp Leu Gln Pro Trp Val Ser Asn Phe Thr Tyr Pro Gly Ala Arg Asp 165 170 175
- Phe Ser Gln Leu Ala Leu Asp Pro Ser Gly Asn Gln Leu Ile Val Gly
 180 185 190
- Ala Arg Asn Tyr Leu Phe Arg Leu Ser Leu Ala Asn Val Ser Leu Leu 195 200 205
- Gln Ala Thr Glu Trp Ala Ser Ser Glu Asp Thr Arg Arg Ser Cys Gln 210 215 220
- Ser Lys Gly Lys Thr Glu Glu Glu Cys Gln Asn Tyr Val Arg Val Leu 225 230 235 240
- Ile Val Ala Gly Arg Lys Val Phe Met Cys Gly Thr Asn Ala Phe Ser 245 250 255
- Pro Met Cys Thr Ser Arg Gln Val Gly Asn Leu Ser Arg Thr Thr Glu 260 265 270
- Lys Ile Asn Gly Val Ala Arg Cys Pro Tyr Asp Pro Arg His Asn Ser 275 280 285
- Thr Ala Val Ile Ser Ser Gln Gly Glu Leu Tyr Ala Ala Thr Val Ile 290 295 300
- Asp Phe Ser Gly Arg Asp Pro Ala Ile Tyr Arg Ser Leu Gly Ser Gly 305 310 315 320
- Pro Pro Leu Arg Thr Ala Gln Tyr Asn Ser Lys Trp Leu Asn Glu Pro

325 330 335

Asn Phe Val Ala Ala Tyr Asp Ile Gly Leu Phe Ala Tyr Phe Phe Leu 340 Styr Ser Arg Glu Asn Ala Val Glu His Asp Cys Gly Arg Thr Val Tyr Ser Arg 355

Val Ala Arg Val Cys Lys Asn Asp Val Gly Gly Arg Phe Leu Leu Glu 370 375 380

Asp Thr Trp Thr Thr Phe Met Lys Ala Arg Leu Asn Cys Ser Arg Pro 385 390 395 400

Gly Glu Val Pro Phe Tyr Tyr Asn Glu Leu Gln Ser Ala Phe His Leu
405 410 415

Pro Glu Gln Asp Leu Ile Tyr Gly Val Phe Thr Thr Asn Val Asn Ser 420 425 430

Ile Ala Ala Ser Ala Val Cys Ala Phe Asn Leu Ser Ala Ile Ser Gln 435 440 445

Ala Phe Asn Gly Pro Phe Arg Tyr Gln Glu Asn Pro Arg Ala Ala Trp 450 455 460

Leu Pro Ile Ala Asn Pro Ile Pro Asn Phe Gln Cys Gly Thr Leu Pro 465 470 475 480

Glu Thr Gly Pro Asn Glu Asn Leu Thr Glu Arg Ser Leu Gln Asp Ala 485 490 495

Gln Arg Leu Phe Leu Met Ser Glu Ala Val Gln Pro Val Thr Pro Glu 500 505 510

Pro Cys Val Thr Gln Asp Ser Val Arg Phe Ser His Leu Val Val Asp 515 520 525

Leu Val Gln Ala Lys Asp Thr Leu Tyr His Val Leu Tyr Ile Gly Thr 530 540

Glu Ser Gly Thr Ile Leu Lys Ala Leu Ser Thr Ala Ser Arg Ser Leu 545 550 555 560

His Gly Cys Tyr Leu Glu Glu Leu His Val Leu Pro Pro Gly Arg Arg 565 570 575

Glu Pro Leu Arg Ser Leu Arg Ile Leu His Ser Ala Arg Ala Leu Phe 580 585 590

Val Gly Leu Arg Asp Gly Val Leu Arg Val Pro Leu Glu Arg Cys Ala 595 600 605

Ala Tyr Arg Ser Gln Gly Ala Cys Leu Gly Ala Arg Asp Pro Tyr Cys 610 615 620

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Pro Ser Ser Glu Gln Gln Leu Cys Ala Leu Ser Lys His Pro Thr Val 35 40 45

Ala Phe Glu Asp Leu Gln Pro Trp Val Ser Asn Phe Thr Tyr Pro Gly 50 55 60

Ala Arg Asp Phe Ser Gln Leu Ala Leu Asp Pro Ser Gly Asn Gln Leu 65 70 75 80

Ile Val Gly Ala Arg Asn Tyr Leu Phe Arg Leu Ser Leu Ala Asn Val

Ser Leu Leu Gln Ala Thr Glu Trp Ala Ser Ser Glu Asp Thr Arg Arg 100 105 110

Ser Cys Gln Ser Lys Gly Lys Thr Glu Glu Glu Cys Gln Asn Tyr Val 115 120 125

Arg Val Leu Ile Val Ala Gly Arg Lys Val Phe Met Cys Gly Thr Asn 130 135 140

Ala Phe Ser Pro Met Cys Thr Ser Arg Gln Val Gly Asn Leu Ser Arg 145 150 155 160

Thr Thr Glu Lys Ile Asn Gly Val Ala Arg Cys Pro Tyr Asp Pro Arg 165 170 175

His Asn Ser Thr Ala Val Ile Ser Ser Gln Gly Glu Leu Tyr Ala Ala 180 185 190

Thr Val Ile Asp Phe Ser Gly Arg Asp Pro Ala Ile Tyr Arg Ser Leu 195 200 205

Gly Ser Gly Pro Pro Leu Arg Thr Ala Gln Tyr Asn Ser Lys Trp Leu

210 215 220

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WO 03/101400

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540

Val Arg Asn Val Thr Arg Asp Gly Gly Phe Gly Pro Trp Ser Pro Trp 550 Gln Pro Cys Glu His Leu Asp Gly Asp Asn Ser Gly Ser Cys Leu Cys Arg Ala Arg Ser Cys Asp Ser Pro Arg Pro Arg Cys Gly Gly Leu Asp 585 Cys Leu Gly Pro Ala Ile His Ile Ala Asn Cys Ser Arg Asn Gly Gly 600 Arg Gly Pro Arg Gly Ala Ser Trp Ala Ala Val Gln Ala Arg Pro Val Ala Ser Gly Phe Gln Val Arg Gln Arg Ser Cys Ser Asn Pro Ala Pro Arg His Gly Gly Arg Ile Cys Val Gly Lys Ser Arg Glu Glu Arg Phe Cys Asn Glu Asn Thr Pro Cys Pro Val Pro Ile Phe Trp Ala Ser Trp Gly Ser Trp Ser Lys Cys Ser Ser Asn Cys Gly Gly Met Gln Ser 675 Arg Arg Ala Cys Glu Asn Gly Asn Ser Cys Leu Gly Cys Gly Val Glu Phe Lys Thr Cys Asn Pro Glu Gly Cys Pro Glu Val Arg Arg Asn Thr Pro Trp Thr Pro Trp Leu Pro Val Asn Val Thr Gln Gly Gly Ala Arg Gln Glu Gln Arg Phe Arg Phe Thr Cys Arg Ala Pro Leu Ala Asp Pro His Gly Leu Gln Phe Gly Arg Arg Thr Glu Thr Arg Thr Cys Pro Ala Asp Gly Ser Gly Ser Cys Asp Thr Asp Ala Leu Val Glu Val Leu Leu Arg Ser Gly Ser Thr Ser Pro His Thr Val Ser Gly Gly Trp Ala Ala Trp Gly Pro Trp Ser Ser Cys Ser Arg Asp Cys Glu Leu Gly Phe Arg Val Arg Lys Arg Thr Cys Thr Asn Pro Glu Pro Arg Asn Gly Gly Leu Pro Cys Val Gly Asp Ala Ala Glu Tyr Gln Asp Cys Asn Pro Gln Ala Cys Pro Val Arg Gly Ala Trp Ser Cys Trp Thr Ser Trp Ser 850 855

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- Ser Pro Trp Ser Glu Trp Ser Lys Cys Thr Asp Asp Gly Ala Gln Ser 915 920 925
- Arg Ser Arg His Cys Glu Glu Leu Pro Gly Ser Ser Ala Cys Ala 930 935 940
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- Ile Leu Pro Ala Ser Ser Met Glu Glu Ala Thr Asp Cys Ala Gly Phe 965 970 975
- Asn Leu Ile His Leu Val Ala Thr Gly Ile Ser Cys Phe Leu Gly Ser 980 985 990
- Gly Leu Leu Thr Leu Ala Val Tyr Leu Ser Cys Gln His Cys Gln Arg 995 1000 1005
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- Asp Arg Ala Asn Phe Tyr Pro Leu Gln Gln Thr Asn Val Tyr Thr 1055 1060 1065
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- Gly Pro Pro Asp Thr Pro Ala Gln Gln Leu Arg Cys Gly Trp Thr Val 115 120 125
- Gly Gly Trp Leu Leu Ser Leu Val Arg Gly Leu Leu Pro Cys Leu Pro 130 135 140
- Pro Gly Ala Arg Thr Ala Glu Gly Pro Ile Met Val Leu Ala Gly Pro 145 150 155 160
- Leu Ala Val Ser Leu Leu Pro Ser Leu Thr Leu Leu Val Ser His
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- Leu Ser Ser Gln Asp Val Ser Ser Glu Pro Ser Ser Glu Gln Gln
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- Leu Cys Ala Leu Ser Lys His Pro Thr Val Ala Phe Glu Asp Leu Gln
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- Pro Trp Val Ser Asn Phe Thr Tyr Pro Gly Ala Arg Asp Phe Ser Gln 210 215 220
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- Glu Trp Ala Ser Ser Glu Asp Thr Arg Arg Ser Cys Gln Ser Lys Gly
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- Gly Arg Lys Val Phe Met Cys Gly Thr Asn Ala Phe Ser Pro Met Cys 290 295 300
- Thr Ser Arg Gln Val Gly Asn Leu Ser Arg Thr Thr Glu Lys Ile Asn 305 310 315 320
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- Ile Ser Ser Gln Gly Glu Leu Tyr Ala Ala Thr Val Ile Asp Phe Ser 340 345 350
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Val Cys Lys Asn Asp Val Gly Gly Arg Phe Leu Leu Glu Asp Thr Trp

Thr Thr Phe Met Lys Ala Arg Leu Asn Cys Ser Arg Pro Gly Glu Val

Pro Phe Tyr Tyr Asn Glu Leu Gln Ser Ala Phe His Leu Pro Glu Gln

Asp Leu Ile Tyr Gly Val Phe Thr Thr Asn Val Asn Ser Ile Ala Ala 475

Ser Ala Val Cys Ala Phe Asn Leu Ser Ala Ile Ser Gln Ala Phe Asn 490

Gly Pro Phe Arg Tyr Gln Glu Asn Pro Arg Ala Ala Trp Leu Pro Ile 505

Ala Asn Pro Ile Pro Asn Phe Gln Cys Gly Thr Leu Pro Glu Thr Gly

Pro Asn Glu Asn Leu Thr Glu Arg Ser Leu Gln Asp Ala Gln Arg Leu

Phe Leu Met Ser Glu Ala Val Gln Pro Val Thr Pro Glu Pro Cys Val 550 545 555

Thr Gln Asp Ser Val Arg Phe Ser His Leu Val Val Asp Leu Val Gln 565 570

Ala Lys Asp Thr Leu Tyr His Val Leu Tyr Ile Gly Thr Glu Ser Gly 585

Thr Ile Leu Lys Ala Leu Ser Thr Ala Ser Arg Ser Leu His Gly Cys 600

Tyr Leu Glu Glu Leu His Val Leu Pro Pro Gly Arg Arg Glu Pro Leu 615

Arg Ser Leu Arg Ile Leu His Ser Ala Arg Ala Leu Phe Val Gly Leu 630 635

Arg Asp Gly Val Leu Arg Val Pro Leu Glu Arg Cys Ala Ala Tyr Arg 645

Ser Gln Gly Ala Cys Leu Gly Ala Arg Asp Pro Tyr Cys Gly Trp Asp 665

Gly Lys Gln Gln Arg Cys Ser Thr Leu Glu Asp Ser Ser Asn Met Ser 675 680

Leu Trp Thr Gln Asn Ile Thr Ala Cys Pro Val Arg Asn Val Thr Arg 695 700

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- Ser Pro Arg Pro Arg Cys Gly Gly Leu Asp Cys Leu Gly Pro Ala Ile 740 745 750
- His Ile Ala Asn Cys Ser Arg Asn Gly Ala Val Asp Pro Val Val Ile 755 760 765
- Val Gly Arg Cys Ala Ala Thr Ser Cys Gly Ile Gly Phe Gln Val Arg
 770 780
- Gln Arg Ser Cys Ser Asn Pro Ala Pro Arg His Gly Gly Arg Ile Cys
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- Val Gly Lys Ser Arg Glu Glu Arg Phe Cys Asn Glu Asn Thr Pro Cys 805 810 815
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- Pro Asn His Leu His Tyr Lys Gly Gly Gly Thr Pro Lys Asn Glu 1175 1180 1185
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- Ile Pro Asp Asp Arg Ala Asn Phe Tyr Pro Leu Gln Gln Thr Asn 1205 1210 1215
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Tyr Gly Val Phe Thr Thr Asn Val Asn Ser Ile Ala Ala Ser Ala Val 375 Cys Ala Phe Asn Leu Ser Ala Ile Ser Gln Ala Phe Asn Gly Pro Phe 390 Arg Tyr Gln Glu Asn Pro Arg Ala Ala Trp Leu Pro Ile Ala Asn Pro Ile Pro Asn Phe Gln Cys Gly Thr Leu Pro Glu Thr Gly Pro Asn Glu 425 Asn Leu Thr Glu Arg Ser Leu Gln Asp Ala Gln Arg Leu Phe Leu Met Ser Glu Ala Val Gln Pro Val Thr Pro Glu Pro Cys Val Thr Gln Asp 455 Ser Val Arg Phe Ser His Leu Val Val Asp Leu Val Gln Ala Lys Asp 470 Thr Leu Tyr His Val Leu Tyr Ile Gly Thr Glu Ser Gly Thr Ile Leu 490 Lys Ala Leu Ser Thr Ala Ser Arg Ser Leu His Gly Cys Tyr Leu Glu Glu Leu His Val Leu Pro Pro Gly Arg Arg Glu Pro Leu Arg Ser Leu 520 Arg Ile Leu His Ser Ala Arg Ala Leu Phe Val Gly Leu Arg Asp Gly 535 Val Leu Arg Val Pro Leu Glu Arg Cys Ala Ala Tyr Arg Ser Gln Gly 555 Ala Cys Leu Gly Ala Arg Asp Pro Tyr Cys Gly Trp Asp Gly Lys Gln Gln Arg Cys Ser Thr Leu Glu Asp Ser Ser Asn Met Ser Leu Trp Thr 585 Gln Asn Ile Thr Ala Cys Pro Val Arg Asn Val Thr Arg Asp Gly Gly Phe Gly Pro Trp Ser Pro Trp Gln Pro Cys Glu His Leu Asp Gly Asp Asn Ser Gly Ser Cys Leu Cys Arg Ala Arg Ser Cys Asp Ser Pro Arg 625 Pro Arg Cys Gly Gly Leu Asp Cys Leu Gly Pro Ala Ile His Ile Ala Asn Cys Ser Arg Asn Gly Ala Val Asp Pro Val Val His Arg Gly Pro Leu Cys Ser His Val Leu Trp His Ala Ala Ser Arg Ser Ala Ser Glu 680 Val Ala Ala Thr Leu Leu Pro Ala Thr Gly Ala Ala Ser Ala Trp Ala

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Cys Gly Gly Met Gln Ser Arg Arg Ala Cys Glu Asn Gly Asn

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Cys Pro Glu Val Arg Arg Asn Thr Pro Trp Thr Pro Trp Leu Pro Val

Asn Val Thr Gln Gly Gly Ala Arg Gln Glu Gln Arg Phe Arg Phe Thr

Cys Arg Ala Pro Leu Ala Asp Pro His Gly Leu Gln Phe Gly Arg Arg

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Thr Asp Ala Leu Val Glu Val Leu Leu Arg Ser Gly Ser Thr Ser Pro 835

His Thr Val Ser Gly Gly Trp Ala Ala Trp Gly Pro Trp Ser Ser Cys

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Glu Tyr Gln Asp Cys Asn Pro Gln Ala Cys Pro Val Arg Gly Ala Trp 905 910

Ser Cys Trp Thr Ser Trp Ser Pro Cys Ser Ala Ser Cys Gly Gly Gly 920

His Tyr Gln Arg Thr Arg Ser Cys Thr Ser Pro Ala Pro Ser Pro Gly 930 935

Glu Asp Ile Cys Leu Gly Leu His Thr Glu Glu Ala Leu Cys Ala Thr 955

Gln Ala Cys Pro Glu Gly Trp Ser Pro Trp Ser Glu Trp Ser Lys Cys 970 975

Thr Asp Asp Gly Ala Gln Ser Arg Ser Arg His Cys Glu Glu Leu Leu

Pro Gly Ser Ser Ala Cys Ala Gly Asn Ser Ser Gln Ser Arg Pro Cys 1000

Pro Tyr Ser Glu Ile Arg Val Ile Leu Pro Ala Ser Ser Met Glu 1010 1015 1020

Glu Ala Thr Asp Cys Ala Gly Phe Asn Leu Ile His Leu Val Ala 1025

Thr Gly Ile Ser Cys Phe Leu Gly Ser Gly Leu Leu Thr Leu Ala 1040 1045 1050

Val Tyr Leu Ser Cys Gln His Cys Gln Arg Gln Ser Gln Glu Ser 1055 1060

Thr Leu Val His Pro Ala Thr Pro Asn His Leu His Tyr Lys Gly 1070 1075 1080

Gly Gly Thr Pro Lys Asn Glu Lys Tyr Thr Pro Met Glu Phe Lys 1085 1090 1095

Thr Leu Asn Lys Asn Asn Leu Ile Pro Asp Asp Arg Ala Asn Phe 1100 1105 1110

Tyr Pro Leu Gln Gln Thr Asn Val Tyr Thr Thr Thr Tyr Tyr Pro 1115 1120 1125

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Leu His Pro Pro Leu Gly Val Ser Gly Ser Ser Trp Cys Leu Ala Cys

Val Ser Trp Met Pro Cys Gly Phe Ser Pro Ser Pro Val Ala His His

Leu Val Pro Gly Pro Pro Asp Thr Pro Ala Gln Gln Leu Arg Cys Gly

Trp Thr Val Gly Gly Trp Leu Leu Ser Leu Val Arg Gly Leu Leu Pro

Cys Leu Pro Pro Gly Ala Arg Thr Ala Glu Gly Pro Ile Met Val Leu

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Val Ser His Leu Ser Ser Ser Gln Asp Val Ser Ser Glu Pro Ser Ser 130 135

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Leu Pro Ile Ala Asn Pro Ile Pro Asn Phe Gln Cys Gly Thr Leu Pro 475 Glu Thr Gly Pro Asn Glu Asn Leu Thr Glu Arg Ser Leu Gln Asp Ala 490 Gln Arg Leu Phe Leu Met Ser Glu Ala Val Gln Pro Val Thr Pro Glu 505 Pro Cys Val Thr Gln Asp Ser Val Arg Phe Ser His Leu Val Val Asp Leu Val Gln Ala Lys Asp Thr Leu Tyr His Val Leu Tyr Ile Gly Thr 535 Glu Ser Gly Thr Ile Leu Lys Ala Leu Ser Thr Ala Ser Arg Ser Leu 555 His Gly Cys Tyr Leu Glu Glu Leu His Val Leu Pro Pro Gly Arg Arg 565 570 Glu Pro Leu Arg Ser Leu Arg Ile Leu His Ser Ala Arg Ala Leu Phe 585 Val Gly Leu Arg Asp Gly Val Leu Arg Val Pro Leu Glu Arg Cys Ala Ala Tyr Arg Ser Gln Gly Ala Cys Leu Gly Ala Arg Asp Pro Tyr Cys Gly Trp Asp Gly Lys Gln Gln Arg Cys Ser Thr Leu Glu Asp Ser Ser 625 635 Asn Met Ser Leu Trp Thr Gln Asn Ile Thr Ala Cys Pro Val Arg Asn Val Thr Arg Asp Gly Gly Phe Gly Pro Trp Ser Pro Trp Gln Pro Cys Glu His Leu Asp Gly Asp Asn Ser Gly Ser Cys Leu Cys Arg Ala Arg Ser Cys Asp Ser Pro Arg Pro Arg Cys Gly Gly Leu Asp Cys Leu Gly Pro Ala Ile His Ile Ala Asn Cys Ser Arg Asn Gly Ala Val Asp Pro Val Val Ile Val Gly Arg Cys Ala Ala Thr Ser Cys Gly Ile Gly Phe Gln Val Arg Gln Arg Ser Cys Ser Asn Pro Ala Pro Arg His Gly Gly Arg Ile Cys Val Gly Lys Ser Arg Glu Glu Arg Phe Cys Asn Glu Asn Thr Pro Cys Pro Val Pro Ile Phe Trp Ala Ser Trp Gly Ser Trp Ser Lys Cys Ser Ser Asn Cys Gly Gly Met Gln Ser Arg Arg Ala

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Glu Gln Gln Leu Cys Ala Leu Ser Lys His Pro Thr Val Ala Phe Glu 145 150 155 160

Asp Leu Gln Pro Trp Val Ser Asn Phe Thr Tyr Pro Gly Ala Arg Asp

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- Pro Glu Gln Asp Leu Ile Tyr Gly Val Phe Thr Thr Asn Val Asn Ser 420 425 430
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Cys Asn Pro Glu Gly Cys Pro Glu Val Arg Arg Asn Thr Pro Trp Thr 820 825 830

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- Gln Phe Gly Arg Arg Thr Glu Thr Arg Thr Cys Pro Ala Asp Gly 865 870 875 880
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1130 1135 1140

Lys Tyr Thr Pro Met Glu Phe Lys Thr Leu Asn Lys Asn Asn Leu 1145 1150 1155

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Leu Val Pro Gly Pro Pro Asp Thr Pro Ala Gln Gln Leu Arg Cys Gly 65 70 75 80

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Ile Met Val Leu Ala Gly Pro Leu Ala Val Ser Leu Leu Pro Ser 145 150 155 160

Leu Thr Leu Leu Val Ser His Leu Ser Ser Ser Gln Asp Val Ser Ser 165 170 175

Glu Pro Ser Ser Glu Gln Gln Leu Cys Ala Leu Ser Lys His Pro Thr 180 185 190

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Gly Thr Leu Pro Glu Thr Gly Pro Asn Glu Asn Leu Thr Glu Arg Ser

Leu Gln Asp Ala Gln Arg Leu Phe Leu Met Ser Glu Ala Val Gln Pro

535

530

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Gly Thr Gln Ala Trp Arg Arg Arg Thr Ser Glu Ala Glu Gly Arg 65 70 75 80

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Met Pro Cys Gly Phe Ser Pro Ser Pro Val Ala His His Leu Val Pro 100 105 110

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Leu Cys Ala Leu Ser Lys His Pro Thr Val Ala Phe Glu Asp Leu Gln
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865	870	875	880

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- Phe Thr Cys Arg Ala Pro Leu Ala Asp Pro His Gly Leu Gln Phe Gly
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- Arg Arg Thr Glu Thr Arg Thr Cys Pro Ala Asp Gly Ser Gly Ser 915 920 925
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Ser Leu Leu Pro Ser Leu Thr Leu Leu Val Ser His Leu Ser Ser 65 70 75 80

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Leu Ser Lys His Pro Thr Val Ala Phe Glu Asp Leu Gln Pro Trp Val
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Asp Pro Ser Gly Asn Gln Leu Ile Val Gly Ala Arg Asn Tyr Leu Phe 130 135 140

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Ser Ser Glu Asp Thr Arg Arg Ser Cys Gln Ser Lys Gly Lys Thr Glu 165 170 175

Glu Glu Cys Gln Asn Tyr Val Arg Val Leu Ile Val Ala Gly Arg Lys 180 185 190

Val Phe Met Cys Gly Thr Asn Ala Phe Ser Pro Met Cys Thr Ser Arg 195 200 205

Gln Val Gly Asn Leu Ser Arg Thr Thr Glu Lys Ile Asn Gly Val Ala

210 215 220

Arg Cys Pro Tyr Asp Pro Arg His Asn Ser Thr Ala Val Ile Ser Ser 230 235 Gln Gly Glu Leu Tyr Ala Ala Thr Val Ile Asp Phe Ser Gly Arg Asp 245 250 Pro Ala Ile Tyr Arg Ser Leu Gly Ser Gly Pro Pro Leu Arg Thr Ala 260 265 Gln Tyr Asn Ser Lys Trp Leu Asn Glu Pro Asn Phe Val Ala Ala Tyr 280 Asp Ile Gly Leu Phe Ala Tyr Phe Phe Leu Arg Glu Asn Ala Val Glu 295 His Asp Cys Gly Arg Thr Val Tyr Ser Arg Val Ala Arg Val Cys Lys Asn Asp Val Gly Gly Arg Phe Leu Leu Glu Asp Thr Trp Thr Thr Phe Met Lys Ala Arg Leu Asn Cys Ser Arg Pro Gly Glu Val Pro Phe Tyr Tyr Asn Glu Leu Gln Ser Ala Phe His Leu Pro Glu Gln Asp Leu Ile Tyr Gly Val Phe Thr Thr Asn Val Asn Ser Ile Ala Ala Ser Ala Val Cys Ala Phe Asn Leu Ser Ala Ile Ser Gln Ala Phe Asn Gly Pro Phe Arg Tyr Gln Glu Asn Pro Arg Ala Ala Trp Leu Pro Ile Ala Asn Pro Ile Pro Asn Phe Gln Cys Gly Thr Leu Pro Glu Thr Gly Pro Asn Glu Asn Leu Thr Glu Arg Ser Leu Gln Asp Ala Gln Arg Leu Phe Leu Met Ser Glu Ala Val Gln Pro Val Thr Pro Glu Pro Cys Val Thr Gln Asp 455 Ser Val Arg Phe Ser His Leu Val Val Asp Leu Val Gln Ala Lys Asp Thr Leu Tyr His Val Leu Tyr Ile Gly Thr Glu Ser Gly Thr Ile Leu 490 Lys Ala Leu Ser Thr Ala Ser Arg Ser Leu His Gly Cys Tyr Leu Glu Glu Leu His Val Leu Pro Pro Gly Arg Arg Glu Pro Leu Arg Ser Leu Arg Ile Leu His Ser Ala Arg Ala Leu Phe Val Gly Leu Arg Asp Gly

535

Val Leu Arg Val Pro Leu Glu Arg Cys Ala Ala Tyr Arg Ser Gln Gly 550 Ala Cys Leu Gly Ala Arg Asp Pro Tyr Cys Gly Trp Asp Gly Lys Gln 565 570 Gln Arg Cys Ser Thr Leu Glu Asp Ser Ser Asn Met Ser Leu Trp Thr 585 Gln Asn Ile Thr Ala Cys Pro Val Arg Asn Val Thr Arg Asp Gly Gly 600 Phe Gly Pro Trp Ser Pro Trp Gln Pro Cys Glu His Leu Asp Gly Asp Asn Ser Gly Ser Cys Leu Cys Arg Ala Arg Ser Cys Asp Ser Pro Arg Pro Arg Cys Gly Gly Leu Asp Cys Leu Gly Pro Ala Ile His Ile Ala Asn Cys Ser Arg Asn Gly Ala Val Asp Pro Val Val His Arg Gly Pro Leu Cys Ser His Val Leu Trp His Ala Ala Ser Arg Ser Ala Ser Glu Val Ala Ala Thr Leu Leu Pro Ala Thr Gly Ala Ala Ser Ala Trp Ala Arg Ala Trp Glu Glu Arg Phe Cys Asn Glu Asn Thr Pro Cys Pro Val Pro Ile Phe Trp Ala Ser Trp Gly Ser Trp Ser Lys Cys Ser Ser Asn Cys Gly Gly Met Gln Ser Arg Arg Ala Cys Glu Asn Gly Asn Ser Cys Leu Gly Cys Gly Val Glu Phe Lys Thr Cys Asn Pro Glu Gly Cys Pro Glu Val Arg Arg Asn Thr Pro Trp Thr Pro Trp Leu Pro Val Asn Val Thr Gln Gly Gly Ala Arg Gln Glu Gln Arg Phe Arg Phe Thr 795 Cys Arg Ala Pro Leu Ala Asp Pro His Gly Leu Gln Phe Gly Arg Arg Arg Thr Glu Thr Arg Thr Cys Pro Ala Asp Gly Ser Gly Ser Cys Asp Thr Asp Ala Leu Val Glu Val Leu Leu Arg Ser Gly Ser Thr Ser Pro His Thr Val Ser Gly Gly Trp Ala Ala Trp Gly Pro Trp Ser Ser Cys 855

Ser Arg Asp Cys Glu Leu Gly Phe Arg Val Arg Lys Arg Thr Cys Thr 865 870 875 880

- Asn Pro Glu Pro Arg Asn Gly Gly Leu Pro Cys Val Gly Asp Ala Ala 885 890 895
- Glu Tyr Gln Asp Cys Asn Pro Gln Ala Cys Pro Val Arg Gly Ala Trp 900 905 910
- Ser Cys Trp Thr Ser Trp Ser Pro Cys Ser Ala Ser Cys Gly Gly Gly 915 920 925
- His Tyr Gln Arg Thr Arg Ser Cys Thr Ser Pro Ala Pro Ser Pro Gly 930 935 940
- Glu Asp Ile Cys Leu Gly Leu His Thr Glu Glu Ala Leu Cys Ala Thr 945 950 955 960
- Gln Ala Cys Pro Glu Gly Trp Ser Pro Trp Ser Glu Trp Ser Lys Cys 965 970 975
- Thr Asp Asp Gly Ala Gln Ser Arg Ser Arg His Cys Glu Glu Leu Leu 980 985 990
- Pro Gly Ser Ser Ala Cys Ala Gly Asn Ser Ser Gln Ser Arg Pro Cys 995 1000 1005
- Pro Tyr Ser Glu Ile Arg Val Ile Leu Pro Ala Ser Ser Met Glu 1010 1015 1020
- Glu Ala Thr Asp Cys Ala Gly Phe Asn Leu Ile His Leu Val Ala 1025 1030 1035
- Thr Gly Ile Ser Cys Phe Leu Gly Ser Gly Leu Leu Thr Leu Ala 1040 1045 1050
- Val Tyr Leu Ser Cys Gln His Cys Gln Arg Gln Ser Gln Glu Ser 1055 1060 1065
- Thr Leu Val His Pro Ala Thr Pro Asn His Leu His Tyr Lys Gly 1070 1075 1080
- Gly Gly Thr Pro Lys Asn Glu Lys Tyr Thr Pro Met Glu Phe Lys 1085 1090 1095
- Thr Leu Asn Lys Asn Asn Leu Ile Pro Asp Asp Arg Ala Asn Phe 1100 1105 1110
- Tyr Pro Leu Gln Gln Thr Asn Val Tyr Thr Thr Thr Tyr Tyr Pro 1115 1120 1125
- Ser Pro Leu Asn Lys His Ser Phe Arg Pro Glu Ala Ser Pro Gly 1130 1135 1140
- Gln Arg Cys Phe Pro Asn Ser 1145 1150

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<213> Homo sapiens

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Val Ser Trp Met Pro Cys Gly Phe Ser Pro Ser Pro Val Ala His His 50 55 60

Leu Val Pro Gly Pro Pro Asp Thr Pro Ala Gln Gln Leu Arg Cys Gly 65 70 75 80

Trp Thr Val Gly Gly Trp Leu Leu Ser Leu Val Arg Gly Leu Leu Pro 85 90 95

Cys Leu Pro Pro Gly Ala Arg Thr Ala Glu Gly Pro Ile Met Val Leu 100 105 110

Ala Gly Pro Leu Ala Val Ser Leu Leu Leu Pro Ser Leu Thr Leu Leu 115 120 125

Val Ser His Leu Ser Ser Ser Gln Asp Val Ser Ser Glu Pro Ser Ser 130 135 140

Glu Gln Gln Leu Cys Ala Leu Ser Lys His Pro Thr Val Ala Phe Glu 145 150 155 160

Asp Leu Gln Pro Trp Val Ser Asn Phe Thr Tyr Pro Gly Ala Arg Asp 165 170 175

Phe Ser Gln Leu Ala Leu Asp Pro Ser Gly Asn Gln Leu Ile Val Gly 180 185 190

Ala Arg Asn Tyr Leu Phe Arg Leu Ser Leu Ala Asn Val Ser Leu Leu 195 200 205

Gln Ala Thr Glu Trp Ala Ser Ser Glu Asp Thr Arg Arg Ser Cys Gln 210 215 220

Ser Lys Gly Lys Thr Glu Glu Glu Cys Gln Asn Tyr Val Arg Val Leu 225 230 235 240

Ile Val Ala Gly Arg Lys Val Phe Met Cys Gly Thr Asn Ala Phe Ser 245 250 255

Pro Met Cys Thr Ser Arg Gln Val Gly Asn Leu Ser Arg Thr Thr Glu 260 265 270

Lys Ile Asn Gly Val Ala Arg Cys Pro Tyr Asp Pro Arg His Asn Ser 275 280 285

Thr Ala Val Ile Ser Ser Gln Gly Glu Leu Tyr Ala Ala Thr Val Ile 290 295 300

Asp Phe Ser Gly Arg Asp Pro Ala Ile Tyr Arg Ser Leu Gly Ser Gly

305					310					315					320
Pro	Pro	Leu	Arg	Thr 325	Ala	Gln	Tyr	Asn	Ser 330	Lys	Trp	Leu	Asn	Glu 335	Pro
Asn	Phe	Val	Ala 340	Ala	Tyr	Asp	Ile	Gly 345	Leu	Phe	Ala	Tyr	Phe 350	Phe	Leu
Arg	Glu	Asn 355	Ala	Val	Glu	His	Asp 360	Суѕ	Gly	Arg	Thr	Val 365	Tyr	Ser	Arg
Val	Ala 370	Arg	Val	Cys	Lys	Asn 375	Asp	Val	Gly	Gly	Arg 380	Phe	Leu	Leu	Glu
Asp 385	Thr	Trp	Thr	Thr	Phe 390	Met	Lys	Ala	Arg	Leu 395	Asn	Cys	Ser	Arg	Pro 400
Gly	Glu	Val	Pro	Phe 405	Tyr	Tyr	Asn	Glu	Leu 410	Gln	Ser	Ala	Phe	His 415	Leu
Pro	Glu	Gln	Asp 420	Leu	Ile	Tyr	Gly	Val 425	Phe	Thr	Thr	Asn	Val 430	Asn	Ser
		435				_	440					445	Ile		
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465					470					475	_	_	Thr		480
				485					490				Gln	495	
	_		500					505					Thr 510		
	_	515					520					525			
	530					535					540		Ile		
545		_			550					555			Arg		560
His	Gly	Cys	Tyr	565		Glu	Leu	His	Val 570		Pro	Pro	Gly	Arg 575	_
			580	1				585	i				, Ala 590		
	_	595	5				600)				605			
	610)				615	5				620)) Pro		
Gly 625	_	Asp	Gly	/ Lys	630		n Arg	g Cys	Ser	635		ı Glı	a Asp	Ser	Ser 640

Asn Met Ser Leu Trp Thr Gln Asn Ile Thr Ala Cys Pro Val Arg Asn Val Thr Arg Asp Gly Gly Phe Gly Pro Trp Ser Pro Trp Gln Pro Cys 665 660 Glu His Leu Asp Gly Asp Asn Ser Gly Ser Cys Leu Cys Arg Ala Arg 680 Ser Cys Asp Ser Pro Arg Pro Arg Cys Gly Gly Leu Asp Cys Leu Gly 690 695 Pro Ala Ile His Ile Ala Asn Cys Ser Arg Asn Gly Ala Val Asp Pro 710 Val Val Ile Val Gly Arg Cys Ala Ala Thr Ser Cys Gly Ile Gly Phe Gln Val Arg Gln Arg Ser Cys Ser Asn Pro Ala Pro Arg His Gly Gly Arg Ile Cys Val Gly Lys Ser Arg Glu Glu Arg Phe Cys Asn Glu Asn Thr Pro Cys Pro Val Pro Ile Phe Trp Ala Ser Trp Gly Ser Trp Ser Lys Cys Ser Ser Asn Cys Gly Gly Gly Met Gln Ser Arg Arg Ala Cys Glu Asn Gly Asn Ser Cys Leu Gly Cys Gly Val Glu Phe Lys Thr Cys Asn Pro Glu Gly Cys Pro Glu Val Arg Arg Asn Thr Pro Trp Thr Pro Trp Leu Pro Val Asn Val Thr Gln Gly Gly Ala Arg Gln Glu Gln Arg Phe Arg Phe Thr Cys Arg Ala Pro Leu Ala Asp Pro His Gly Leu 855 Gln Phe Gly Arg Arg Arg Thr Glu Thr Arg Thr Cys Pro Ala Asp Gly Ser Gly Ser Cys Asp Thr Asp Ala Leu Val Glu Val Leu Leu Arg Ser Gly Ser Thr Ser Pro His Thr Val Ser Gly Gly Trp Ala Ala Trp Gly Pro Trp Ser Ser Cys Ser Arg Asp Cys Glu Leu Gly Phe Arg Val Arg 920 Lys Arg Thr Cys Thr Asn Pro Glu Pro Arg Asn Gly Gly Leu Pro Cys Val Gly Asp Ala Ala Glu Tyr Gln Asp Cys Asn Pro Gln Ala Cys Pro 950 955

Val Arg Gly Ala Trp Ser Cys Trp Thr Ser Trp Ser Pro Cys Ser Ala 965 970 975

- Ser Cys Gly Gly His Tyr Gln Arg Thr Arg Ser Cys Thr Ser Pro 980 985 990
- Ala Pro Ser Pro Gly Glu Asp Ile Cys Leu Gly Leu His Thr Glu Glu 995 1000 1005
- Ala Leu Cys Ala Thr Gln Ala Cys Pro Glu Gly Trp Ser Pro Trp 1010 1015 1020
- Ser Glu Trp Ser Lys Cys Thr Asp Asp Gly Ala Gln Ser Arg Ser 1025 1030 1035
- Arg His Cys Glu Glu Leu Leu Pro Gly Ser Ser Ala Cys Ala Gly 1040 1045 1050
- Asn Ser Ser Gln Ser Arg Pro Cys Pro Tyr Ser Glu Ile Arg Val 1055 1060 1065
- Ile Leu Pro Ala Ser Ser Met Glu Glu Ala Thr Asp Cys Ala Gly 1070 1080
- Phe Asn Leu Ile His Leu Val Ala Thr Gly Ile Ser Cys Phe Leu 1085 1090 1095
- Gly Ser Gly Leu Leu Thr Leu Ala Val Tyr Leu Ser Cys Gln His 1100 1105 1110
- Cys Gln Arg Gln Ser Gln Glu Ser Thr Leu Val His Pro Ala Thr 1115 1120 1125
- Pro Asn His Leu His Tyr Lys Gly Gly Gly Thr Pro Lys Asn Glu 1130 1135 1140
- Lys Tyr Thr Pro Met Glu Phe Lys Thr Leu Asn Lys Asn Asn Leu 1145 1150 1155
- Ile Pro Asp Asp Arg Ala Asn Phe Tyr Pro Leu Gln Gln Thr Asn 1160 1165 1170
- Ala Ser Ala Gly Tyr Pro Pro Leu Pro Gly Ser Leu Tyr Ser Thr 1175 1180 1185
- Gln Gly Ile Pro Leu Val Arg Gly Ser Glu Tyr Trp Glu Leu Glu 1190 1195 ·1200
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- Leu His Pro Pro Leu Gly Val Ser Gly Ser Ser Trp Cys Leu Ala Cys 35 40 45
- Val Ser Trp Met Pro Cys Gly Phe Ser Pro Ser Pro Val Ala His His 50 55 60
- Leu Val Pro Gly Pro Pro Asp Thr Pro Ala Gln Gln Leu Arg Cys Gly 65 70 75 80
- Trp Thr Val Gly Gly Trp Leu Leu Ser Leu Val Arg Gly Leu Leu Pro 85 90 95
- Cys Leu Pro Pro Gly Ala Arg Thr Ala Glu Gly Pro Ile Met Val Leu 100 105 110
- Ala Gly Pro Leu Ala Val Ser Leu Leu Leu Pro Ser Leu Thr Leu Leu 115 120 125
- Val Ser His Leu Ser Ser Ser Gln Asp Val Ser Ser Glu Pro Ser Ser 130 135 140
- Glu Gln Gln Leu Cys Ala Leu Ser Lys His Pro Thr Val Ala Phe Glu 145 150 155 160
- Asp Leu Gln Pro Trp Val Ser Asn Phe Thr Tyr Pro Gly Ala Arg Asp 165 170 175
- Phe Ser Gln Leu Ala Leu Asp Pro Ser Gly Asn Gln Leu Ile Val Gly 180 185 190
- Ala Arg Asn Tyr Leu Phe Arg Leu Ser Leu Ala Asn Val Ser Leu Leu 195 200 205
- Gln Ala Thr Glu Trp Ala Ser Ser Glu Asp Thr Arg Arg Ser Cys Gln 210 215 220
- Ser Lys Gly Lys Thr Glu Glu Glu Cys Gln Asn Tyr Val Arg Val Leu 225 230 235 240
- Ile Val Ala Gly Arg Lys Val Phe Met Cys Gly Thr Asn Ala Phe Ser 245 250 255
- Pro Met Cys Thr Ser Arg Gln Val Gly Asn Leu Ser Arg Thr Thr Glu 260 265 270
- Lys Ile Asn Gly Val Ala Arg Cys Pro Tyr Asp Pro Arg His Asn Ser 275 280 285
- Thr Ala Val Ile Ser Ser Gln Gly Glu Leu Tyr Ala Ala Thr Val Ile 290 295 300
- Asp Phe Ser Gly Arg Asp Pro Ala Ile Tyr Arg Ser Leu Gly Ser Gly 305 310 315 320
- Pro Pro Leu Arg Thr Ala Gln Tyr Asn Ser Lys Trp Leu Asn Glu Pro 325 330 335
- Asn Phe Val Ala Ala Tyr Asp Ile Gly Leu Phe Ala Tyr Phe Phe Leu

340 345 350 Arg Glu Asn Ala Val Glu His Asp Cys Gly Arg Thr Val Tyr Ser Arg 360 Val Ala Arg Val Cys Lys Asn Asp Val Gly Gly Arg Phe Leu Leu Glu 375 Asp Thr Trp Thr Thr Phe Met Lys Ala Arg Leu Asn Cys Ser Arg Pro 385 390 395 Gly Glu Val Pro Phe Tyr Tyr Asn Glu Leu Gln Ser Ala Phe His Leu Pro Glu Gln Asp Leu Ile Tyr Gly Val Phe Thr Thr Asn Val Asn Ser Ile Ala Ala Ser Ala Val Cys Ala Phe Asn Leu Ser Ala Ile Ser Gln Ala Phe Asn Gly Pro Phe Arg Tyr Gln Glu Asn Pro Arg Ala Ala Trp Leu Pro Ile Ala Asn Pro Ile Pro Asn Phe Gln Cys Gly Thr Leu Pro Glu Thr Gly Pro Asn Glu Asn Leu Thr Glu Arg Ser Leu Gln Asp Ala Gln Arg Leu Phe Leu Met Ser Glu Ala Val Gln Pro Val Thr Pro Glu Pro Cys Val Thr Gln Asp Ser Val Arg Phe Ser His Leu Val Val Asp Leu Val Gln Ala Lys Asp Thr Leu Tyr His Val Leu Tyr Ile Gly Thr 535 Glu Ser Gly Thr Ile Leu Lys Ala Leu Ser Thr Ala Ser Arg Ser Leu 555 His Gly Cys Tyr Leu Glu Glu Leu His Val Leu Pro Pro Gly Arg Arg Glu Pro Leu Arg Ser Leu Arg Ile Leu His Ser Ala Arg Ala Leu Phe 585 Val Gly Leu Arg Asp Gly Val Leu Arg Val Pro Leu Glu Arg Cys Ala Ala Tyr Arg Ser Gln Gly Ala Cys Leu Gly Ala Arg Asp Pro Tyr Cys 615 Gly Trp Asp Gly Lys Gln Gln Arg Cys Ser Thr Leu Glu Asp Ser Ser

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WO 03/101400

665 670

Asn Met Ser Leu Trp Thr Gln Asn Ile Thr Ala Cys Pro Val Arg Asn

Val Thr Arg Asp Gly Gly Phe Gly Pro Trp Ser Pro Trp Gln Pro Cys

Glu His Leu Asp Gly Asp Asn Ser Gly Ser Cys Leu Cys Arg Ala Arg Ser Cys Asp Ser Pro Arg Pro Arg Cys Gly Gly Leu Asp Cys Leu Gly 695 Pro Ala Ile His Ile Ala Asn Cys Ser Arg Asn Gly Ala Val Asp Pro 715 Val Val Ile Val Gly Arg Cys Ala Ala Thr Ser Cys Gly Ile Gly Phe 725 730 Gln Val Arg Gln Arg Ser Cys Ser Asn Pro Ala Pro Arg His Gly Gly 745 Arg Ile Cys Val Gly Lys Ser Arg Glu Glu Arg Phe Cys Asn Glu Asn Thr Pro Cys Pro Val Pro Ile Phe Trp Ala Ser Trp Gly Ser Trp Ser Lys Cys Ser Ser Asn Cys Gly Gly Met Gln Ser Arg Arg Ala Cys Glu Asn Gly Asn Ser Cys Leu Gly Cys Gly Val Glu Phe Lys Thr Cys Asn Pro Glu Gly Cys Pro Glu Val Arg Arg Asn Thr Pro Trp Thr Pro Trp Leu Pro Val Asn Val Thr Gln Gly Gly Ala Arg Gln Glu Gln Arg Phe Arg Phe Thr Cys Arg Ala Pro Leu Ala Asp Pro His Gly Leu Gln Phe Gly Arg Arg Thr Glu Thr Arg Thr Cys Pro Ala Asp Gly Ser Gly Ser Cys Asp Thr Asp Ala Leu Val Glu Val Leu Leu Arg Ser Gly Ser Thr Ser Pro His Thr Val Ser Gly Gly Trp Ala Ala Trp Gly Pro Trp Ser Ser Cys Ser Arg Asp Cys Glu Leu Gly Phe Arg Val Arg Lys Arg Thr Cys Thr Asn Pro Glu Pro Arg Asn Gly Gly Leu Pro Cys Val Gly Asp Ala Ala Glu Tyr Gln Asp Cys Asn Pro Gln Ala Cys Pro Val Arg Gly Ala Trp Ser Cys Trp Thr Ser Trp Ser Pro Cys Ser Ala Ser Cys Gly Gly His Tyr Gln Arg Thr Arg Ser Cys Thr Ser Pro 985

Ala Pro Ser Pro Gly Glu Asp Ile Cys Leu Gly Leu His Thr Glu Glu 995 1000 1005

- Ala Leu Cys Ala Thr Gln Ala Cys Pro Glu Gly Trp Ser Pro Trp 1010 1015 1020
- Ser Glu Trp Ser Lys Cys Thr Asp Asp Gly Ala Gln Ser Arg Ser 1025 1030 1035
- Arg His Cys Glu Glu Leu Leu Pro Gly Ser Ser Ala Cys Ala Gly 1040 1045 1050
- Asn Ser Ser Gln Ser Arg Pro Cys Pro Tyr Ser Glu Ile Arg Val 1055 1060 1065
- Ile Leu Pro Ala Ser Ser Met Glu Glu Ala Thr Asp Cys Ala Gly 1070 1075 1080
- Phe Asn Leu Ile His Leu Val Ala Thr Gly Ile Ser Cys Phe Leu 1085 1090 1095
- Gly Ser Gly Leu Leu Thr Leu Ala Val Tyr Leu Ser Cys Gln His 1100 1105 1110
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- Pro Asn His Leu His Tyr Lys Gly Gly Gly Thr Pro Lys Asn Glu 1130 1135 1140
- Lys Tyr Thr Pro Met Glu Phe Lys Thr Leu Asn Lys Asn Asn Leu 1145 1150 1155
- Ile Pro Asp Asp Arg Ala Asn Phe Tyr Pro Leu Gln Gln Thr Asn 1160 1165 1170
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- Leu His Pro Pro Leu Gly Val Ser Gly Ser Ser Trp Cys Leu Ala Cys 35 40 45
- Val Ser Trp Met Pro Cys Gly Phe Ser Pro Ser Pro Val Ala His His 50 55 60

Leu Val Pro Gly Pro Pro Asp Thr Pro Ala Gln Gln Leu Arg Cys Gly Trp Thr Val Gly Gly Trp Leu Leu Ser Leu Val Arg Gly Arg Lys Pro Ser Gly Asp Phe Glu Trp Arg Gln Gly Trp Arg Gly Pro Gly Glu Glu 100 105 Asp Trp Pro Glu Ser Pro Ser Pro Lys Val Leu Met Asp Ser Ala Gly 120 Gly Leu Leu Pro Cys Leu Pro Pro Gly Ala Arg Thr Ala Glu Gly Pro 130 135 Ile Met Val Leu Ala Gly Pro Leu Ala Val Ser Leu Leu Pro Ser 150 Leu Thr Leu Leu Val Ser His Leu Ser Ser Ser Gln Asp Val Ser Ser 165 Glu Pro Ser Ser Glu Gln Gln Leu Cys Ala Leu Ser Lys His Pro Thr Val Ala Phe Glu Asp Leu Gln Pro Trp Val Ser Asn Phe Thr Tyr Pro Gly Ala Arg Asp Phe Ser Gln Leu Ala Leu Asp Pro Ser Gly Asn Gln Leu Ile Val Gly Ala Arg Asn Tyr Leu Phe Arg Leu Ser Leu Ala Asn 235 Val Ser Leu Leu Gln Ala Thr Glu Trp Ala Ser Ser Glu Asp Thr Arg Arg Ser Cys Gln Ser Lys Gly Lys Thr Glu Glu Glu Cys Gln Asn Tyr Val Arg Val Leu Ile Val Ala Gly Arg Lys Val Phe Met Cys Gly Thr Asn Ala Phe Ser Pro Met Cys Thr Ser Arg Gln Val Gly Asn Leu Ser Arg Thr Thr Glu Lys Ile Asn Gly Val Ala Arg Cys Pro Tyr Asp Pro Arg His Asn Ser Thr Ala Val Ile Ser Ser Gln Gly Glu Leu Tyr Ala Ala Thr Val Ile Asp Phe Ser Gly Arg Asp Pro Ala Ile Tyr Arg Ser Leu Gly Ser Gly Pro Pro Leu Arg Thr Ala Gln Tyr Asn Ser Lys Trp Leu Asn Glu Pro Asn Phe Val Ala Ala Tyr Asp Ile Gly Leu Phe Ala 370 Tyr Phe Phe Leu Arg Glu Asn Ala Val Glu His Asp Cys Gly Arg Thr

385					390					395					400
Val	Tyr	Ser	Arg	Val 405	Ala	Arg	Val	Cys	Lys 410	Asn	Asp	Val	Gly	Gly 415	Arg
Phe	Leu	Leu	Glu 420	Asp	Thr	Trp	Thr	Thr 425	Phe	Met	Lys	Ala	Arg 430	Leu	Asn
Cys	Ser	Arg 435	Pro	Gly	Glu	Val	Pro 440	Phe	Tyr	Tyr	Asn	Glu 445	Leu	Gln	Ser
Ala	Phe 450	His	Leu	Pro	Glu	Gln 455	Asp	Leu	Ile	Tyr	Gly 460	Val	Phe	Thr	Thr
Asn 465	Val	Asn	Ser	Ile	Ala 470	Ala	Ser	Ala	Val	Cys 475	Ala	Phe	Asn	Leu	Ser 480
Ala	Ile	Ser	Gln	Ala 485	Phe	Asn	Gly	Pro	Phe 490	Arg	Tyr	Gln	Glu	Asn 495	Pro
Arg	Ala	Ala	Trp 500	Leu	Pro	Ile	Ala	Asn 505	Pro	Ile	Pro	Asn	Phe 510	Gln	Cys
Gly	Thr	Leu 515	Pro	Glu	Thr	Gly	Pro 520	Asn	Glu	Asn	Leu	Thr 525	Glu	Arg	Ser
Leu	Gln 530	Asp	Ala	Gln	Arg	Leu 535	Phe	Leu	Met	Ser	Glu 540	Ala	Val	Gln	Pro
Val 545	Thr	Pro	Glu	Pro	Cys 550	Val	Thr	Gln	Asp	Ser 555	Val	Arg	Phe	Ser	His 560
Leu	Val	Val	Asp	Leu 565	Val	Gln	Ala	Lys	Asp 570	Thr	Leu	Tyr	His	Val 575	Leu
Tyr	Ile	Gly	Thr 580	Glu	Ser	Gly	Thr	Ile 585	Leu	Lys	Ala	Leu	Ser 590	Thr	Ala
Ser	Arg	Ser 595	Leu	His	Gly	Cys	Tyr 600		Glu	Glu	Leu	His 605		Leu	Pro
Pro	Gly 610		Arg	Glu	Pro	Leu 615		Ser	Leu	Arg	11e 620	Leu	His	Ser	Ala
Arg 625	Ala	Leu	Phe	Val	Gly 630		Arg	Asp	Gly	Val 635		Arg	Val	Pro	Leu 640
			Ala	645					650					655	
			660					665					670		
		675					680	١				685	•		
	690)	j Asn			695	5				700)			
Trp 705		Pro	Cys	Glu	710		Asp	Gly	Asp	715		Gly	/ Ser	Cys	720

- Cys Arg Ala Arg Ser Cys Asp Ser Pro Arg Pro Arg Cys Gly Gly Leu 725 730 735
- Asp Cys Leu Gly Pro Ala Ile His Ile Ala Asn Cys Ser Arg Asn Gly
 740 745 750
- Gly Arg Gly Pro Arg Gly Ala Ser Trp Ala Ala Val Gln Ala Arg Pro 755 760 765
- Val Ala Ser Gly Phe Gln Val Arg Gln Arg Ser Cys Ser Asn Pro Ala 770 775 780
- Pro Arg His Gly Gly Arg Ile Cys Val Gly Lys Ser Arg Glu Glu Arg 785 790 795 800
- Phe Cys Asn Glu Asn Thr Pro Cys Pro Val Pro Ile Phe Trp Ala Ser 805 810 815
- Trp Gly Ser Trp Ser Lys Cys Ser Ser Asn Cys Gly Gly Met Gln 820 825 830
- Ser Arg Arg Arg Ala Cys Glu Asn Gly Asn Ser Cys Leu Gly Cys Gly 835 840 845
- Val Glu Phe Lys Thr Cys Asn Pro Glu Gly Cys Pro Glu Val Arg Arg 850 855 860
- Asn Thr Pro Trp Thr Pro Trp Leu Pro Val Asn Val Thr Gln Gly Gly 865 870 875 880
- Ala Arg Gln Glu Gln Arg Phe Arg Phe Thr Cys Arg Ala Pro Leu Ala 885 890 895
- Asp Pro His Gly Leu Gln Phe Gly Arg Arg Arg Thr Glu Thr Arg Thr 900 905 910
- Cys Pro Ala Asp Gly Ser Gly Ser Cys Asp Thr Asp Ala Leu Val Glu 915 920 925
- Val Leu Leu Arg Ser Gly Ser Thr Ser Pro His Thr Val Ser Gly Gly 930 935 940
- Trp Ala Ala Trp Gly Pro Trp Ser Ser Cys Ser Arg Asp Cys Glu Leu 945 950 955 960
- Gly Phe Arg Val Arg Lys Arg Thr Cys Thr Asn Pro Glu Pro Arg Asn 965 970 975
- Gly Gly Leu Pro Cys Val Gly Asp Ala Ala Glu Tyr Gln Asp Cys Asn 980 985 990
- Pro Gln Ala Cys Pro Val Arg Gly Ala Trp Ser Cys Trp Thr Ser Trp 995 1000 1005
- Ser Pro Cys Ser Ala Ser Cys Gly Gly Gly His Tyr Gln Arg Thr 1010 1015 1020
- Arg Ser Cys Thr Ser Pro Ala Pro Ser Pro Gly Glu Asp Ile Cys 1025 1030 1035

Leu	Gly 1040	Leu	His	Thr	Glu	Glu 1045	Ala	Leu	Cys	Ala	Thr 1050	Gln	Ala	Cys
Pro	Glu 1055	Gly	Trp	Ser	Pro	Trp 1060	Ser	Glu	Trp	Ser	Lys 1065	Cys	Thr	Asp
Asp	Gly 1070	Ala	Gln	Ser	Arg	Ser 1075	Arg	His	Cys	Glu	Glu 1080	Leu	Leu	Pro
Gly	Ser 1085	Ser	Ala	Cys	Ala	Gly 1090	Asn	Ser	Ser	Gln	Ser 1095	Arg	Pro	Cys
Pro	Tyr 1100	Ser	Glu	Ile	Arg	Val 1105	Ile	Leu	Pro	Ala	Ser 1110	Ser	Met	Glu
Glu	Ala 1115	Thr	Asp	Суѕ	Ala	Gly 1120	Phe	Asn	Leu	Ile	His 1125	Leu	Val	Ala
Thr	Gly 1130	Ile	Ser	Суѕ	Phe	Leu 1135		Ser	Gly	Leu	Leu 1140		Leu	Ala
Val	Tyr 1145	Leu	Ser	Суѕ	Gln	His 1150		Gln	Arg	Gln	Ser 1155	Gln	Glu	Ser
Thr	Leu 1160		His	Pro	Ala	Thr 1165		Asn	His	Leu	His 1170		Lys	Gly
Gly	Gly 1175		Pro	Lys	Asn	Glu 1180	_	Tyr	Thr	Pro	Met 1185		Phe	Lys
Thr	Leu 1190		Lys	Asn	Asn	Leu 1195		Pro	Asp	Asp	Arg 1200		Asn	Phe
Tyr	Pro 1205		Gln	Gln	Thr	Asn 1210		Tyr	Thr	Thr	Thr 1215		Tyr	Pro
Ser	Pro 1220		Asn	Lys	His	Ser 1225		Arg	Pro	Glu	Ala 1230		Pro	Gl
Gln	Arg 1235	-	Phe	Pro	Asn	Ser 1240	l							